

**Abstract Of The Disclosure:**

An apparatus and a method for receiving and processing noisy communications signals automatically varies multiple processing parameters to both improve signal-to-noise ratio and to minimize delays in responding to changes in the incoming signal. The signal-to-noise ratio is improved with relatively stable signals by increasing the number of samples used in forming a processed signal value. In response to changes in signal input, the number of samples used in processing is substantially decreased while the sampling rate is substantially increased until the incoming signal exhibits an increased degree of stability. As the incoming signal becomes more stable, the number of samples used in performing a processed signal value is increased toward maximum and the sample rate is decreased. In an apparatus, noisy signals from an ambient condition sensor can be processed in control circuitry, which incorporates executable instructions, for carrying out signal processing with automatic multi-parameter variations in response to incoming signal characteristics. Processed signal values can be displayed locally or made available to a larger system.